ABSTRACT OF THE DISCLOSURE

The present invention relates to a distributed system in which processors incorporated in machines and objects are mutually linked in operation, and an object of the present invention is to provide a distributed system in which each device can establish a link with a suitable device according to changes in the environment and conditions, independently from the system configuration controlled by a server.

In order to achieve the above object, each device provided by the present invention obtains information on surrounding devices through a sensor 131 or communication processing 112, recognizes the environment around it through environment recognition processing 111, and stores the environmental information in an environment management table 123. By employing link control processing 113, each device shares conditional information stored in a profile 122 and a policy 124 of each device through the communication processing 112. Each device locally and continuously determines a device to be linked with it or whether to perform a link operation requested by another device, using the shared conditional information, information on the surrounding environment, and the policy 124. The results of a link operation are made public and

shared by each device through the link control processing

113, and used for narrowing the range of link target

devices.